



U.S. Department  
of Transportation

**Pipeline and  
Hazardous Materials  
Safety Administration**

400 Seventh Street, S.W.  
Washington, D.C. 20590

**AUG 24 2005**

DOT-E 14170  
(FIRST REVISION)

EXPIRATION DATE: July 31, 2007

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: General Dynamics Armament & Technical Products  
Lincoln, NE
2. PURPOSE AND LIMITATIONS:
  - a. This exemption authorizes the manufacture, marking, sale and use of a non-DOT specification, aluminum-lined fiberglass reinforced plastic, cylinder for the transportation in commerce of the materials authorized by this exemption. This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
  - b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with use as an aircraft component, or other uses not associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.302 and 173.305 in that the use of a non-DOT specification, aluminum-lined fiberglass reinforced plastic, cylinder is not authorized, except as specified herein.

**AUG 24 2005**

5. BASIS: This exemption is based on the application of General Dynamics dated March 8, 2005 and additional information dated March 15, 2005, submitted in accordance with § 107.117 and a determination that it is for immediate national security. A letter dated May 31, 2005 and August 3, 2005.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Material Description				
Proper Shipping Name		Hazard Class/ Division	Identification Number	Packing Group
Nitrogen, compressed		2.2	UN1066	N/A
Helium, compressed		2.2	UN1046	N/A
Compressed gas, n.o.s.		2.2	UN1956	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packagings prescribed are non-DOT specification aluminum-lined fiberglass reinforced plastic cylinders specifically designed by the U.S. Air Force for the F-111 aircraft. Cylinders must be fabricated and tested in accordance with General Dynamics Specification ZK04338C, revised January 18, 1995 on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA). Cylinder valve assemblies must be equipped with a burst disc pressure relief device designed to rupture at between 7100 and 7600 psig. In the event of extreme temperatures, the cylinder pressure relief device must be activated by a pyrotechnic device (consisting of a detonating fuse and a valve assembly authorized under EX 8305016 and EX 8402263). When installed in the cylinder, the pyrotechnic device is not regulated under the Hazardous Materials Regulations. Cylinders must conform with one of the following:

1. Design pressure of 4,000 psig. Maximum volume of 264 cubic inches.
2. Design pressure of 5,000 psig. Maximum volume of 326 cubic inches.

AUG 24 2005

3. Design pressure of 4,900 psig. Maximum volume of 279 cubic inches.

4. Design pressure of 4,200 psig. Maximum volume of 187 cubic inches.

b. TESTING -

(1) Each cylinder must be proof pressure tested to at least 1.67 times the design pressure of the cylinder and must be helium leak tested in accordance with General Dynamics Specification ZK04338C.

(2) Lot acceptance testing must be in accordance with Specification ZK04338C. If any cylinder fails the lot tests, then no cylinder may be shipped until the procedures in Specification ZK04338C have been completed.

c. OPERATIONAL CONTROLS -

(1) The authorized service life of the prescribed cylinder is five years. Cylinders must be removed from service at the end of five years.

(2) Cylinders must be packaged for transportation in accordance with Air Force drawing TPO 00-835-1326 and General Dynamics drawing 880032 on file with the OHMEA. The packaging includes a Styrofoam enclosure in a double walled cardboard container, and a temperature sensing shielded detonating cord wrapped around the inner container.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this exemption for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this exemption.

b. A person who is not a holder of this exemption, but receives a package covered by this exemption, may reoffer it for transportation provided no modification or change is made to the package or its contents and it is offered for transportation in conformance with this exemption and the HMR.

**AUG 24 2005**

c. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

d. Each packaging manufactured under the authority of this exemption must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Exemptions and Approvals for a specific manufacturing facility.

e. A current copy of this exemption must be maintained at each facility where the package is manufactured under this exemption. It must be made available to a DOT representative upon request.

f. Cylinders are limited to military applications on F-111 aircraft.

g. Each cylinder and the outside of the package must be plainly and durably marked "DOT-E 14170" as specified in § 172.301(c).

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only, and passenger-carrying aircraft.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this exemption. The shipper must furnish a current copy of this exemption to the air carrier before or at the time the shipment is tendered.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Persons operating under the terms of this exemption must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.

**AUG 24 2005**

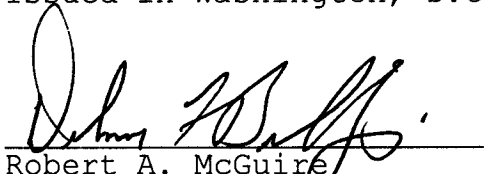
- o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when this exemption has expired or is otherwise no longer in effect.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this exemption are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this exemption must notify the Associate Administrator for Hazardous Materials Safety -- OHMEA, in writing, of any incident involving a package, shipment or operation conducted under terms of this exemption.

Issued in Washington, D.C.:



for Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

**AUG 24 2005**

DATE

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: DHM-31.

Copies of this exemption may be obtained by accessing the Hazardous Materials Safety Homepage at <http://hazmat.dot.gov/exemptions> Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

PO: CWFreeman/sln